19. The method of claim 17, wherein said inert gas of said inert gas blanket is provided from separation of air with a membrane-containing device.

20. The method of claim 19, wherein said oleaginous liquid substance is an engine oil; said machine is said internal combustion engine, and it is necessary to change the engine oil of the crankcase owing to the control of oxidative degradation of the engine oil, and the engine oil is changed, only after at least twenty thousand miles of use in said internal combustion engine, whereas, without the presence of said inert gas blanket, the engine oil would present properties of needing to be changed after a few thousand miles of use in said internal combustion engine in comparison to the engine oil protected by said blanket after said at least twenty thousand miles.

39. The method of claim 17, wherein said working machine is selected from the group consisting of said transmission box and said gear box.

42. The method of claim 16, wherein said inert gas of said inert gas blanket is provided from separation of air with a membrane-containing device.

43. The method of claim 39, wherein said inert gas of said inert gas blanket is provided from separation of air with a membrane-containing device.

46. The method of claim 19, wherein gas enriched with nitrogen provides said inert gas blanket, and by-product gas enriched with oxygen is delivered for consumption to a location selected from the group consisting of a part of the machine other than said enclosed space, and a passenger cabin space.

47. The method of claim 42, wherein gas enriched with nitrogen provides said inert gas blanket, and by-product gas enriched with oxygen is delivered for consumption to a location selected from the group consisting of a part of the machine other than said enclosed space, and a passenger cabin space.

50. A method for controlling oxidative degradation of an engine oil in a crankcase of an internal combustion engine, which comprises providing said engine; providing said engine oil to said crankcase; and blanketing said engine oil in said crankcase with an inert gas blanket to control oxidative degradation of said engine oil.

51. The method of claim 50, wherein it is necessary to change the engine oil of said crankcase owing to the control of oxidative degradation of said engine oil, and said engine oil is changed, only after at least twenty thousand miles of use in said internal combustion engine, whereas, without the presence of said inert gas blanket, the engine oil would present properties of needing to be changed after a few thousand miles of use in said internal combustion engine in comparison to the engine oil

protected by said blanket after said at least twenty thousand miles.

52. The method of claim 51, wherein it is necessary to change the engine oil of said crankcase owing to the control of oxidative degradation of said engine oil, and said engine oil is changed, only after at least fifty thousand miles of use in said internal combustion engine, whereas, without the presence of said inert gas blanket, the engine oil would present properties of needing to be changed after a few thousand miles of use in said internal combustion engine in comparison to the engine oil protected by said blanket after said at least fifty thousand miles.

53. The method of claim 52, wherein said inert gas of said inert gas blanket is provided from separation of air with a membrane-containing device.

61. A method for controlling oxidative degradation of an engine oil in a crankcase of an internal combustion engine and delivering oxygen to a place away from said crankcase, which comprises providing said engine; providing said engine oil to said crankcase; providing a means for supplying an inert gas blanket of a gas enriched with nitrogen in comparison to air, which separates nitrogen and oxygen from the air to provide said inert gas blanket and provide a by-product gas enriched in oxygen; providing a means for directing said inert gas blanket to said crankcase, and blanketing said engine oil in said crankcase with said inert gas blanket to control oxidative degradation of said engine oil; and providing a means for directing said by-product gas to the place away from said crankcase.

64. A method for controlling oxidative degradation of an engine oil in a crankcase of an internal combustion engine and delivering oxygen to a place away from said crankcase, which comprises providing said engine; providing said engine oil to said crankcase; providing a membrane-containing device for separation of air to supply an inert gas blanket of a gas enriched with nitrogen in comparison to air, which separates nitrogen and oxygen from the air to provide said inert gas blanket and provide a by-product gas enriched in oxygen; providing a means for directing said inert gas blanket to said crankcase; under overpressure conditions, blanketing said engine oil in said crankcase with said inert gas blanket to control oxidative degradation of said engine oil; and providing a means for directing said by-product gas to the place away from said crankcase.

65. A method for controlling oxidative degradation of a transmission fluid in a transmission and delivering oxygen to a place away from said transmission, which comprises providing said transmission; providing said transmission fluid to said transmission; providing a means for supplying an inert gas blanket of a gas enriched with nitrogen in comparison to air, which separates nitrogen and oxygen from the air to provide said

inert gas blanket and provide a by-product gas enriched in oxygen; providing a means for directing said inert gas blanket to said transmission, and blanketing said transmission fluid in said transmission with said inert gas blanket to control oxidative degradation of said transmission fluid; and providing a means for directing said by-product gas to the place away from said transmission.

The objection to the specification set forth in Paper No. 16 under 35 USC 132 and the rejection of claims 16, 17, 19, 20, 39, 42, 43, 46, 47 & 51-53 set forth in Paper No. 16 under 35 USC 112, first paragraph, are respectfully traversed. The inventors clearly had possession of the invention and disclosed such at the time of the filing of the application, and no new matter has been added. Any person skilled in the art would recognize that many working machines having enclosed space and lubricants in the enclosed space are vented, which include in particular common crankcases, transmissions, and gear boxes other than transmissions, as recognized in notable patent art. See, e.g., Rose et al., US 5662156, cols. 1-2 (vented crankcase); Davison, Jr. et al., US 5062447, cols. 1-2 (vented transmission); Ishikawa et al., US 5052988, cols. 6-7 (vented gear box); Fisher, US 5284225, abstract (vented gear box) (copies of record). See also, U.S. patent 5,852,992 to Boggs (assigned to Ford Global Technologies, Inc.) entitled, "Internal Combustion Engine Having Separated Cylinder Head Oil Drains and Crankcase Ventilation Passages," which states: "The working gasses of an internal combustion engine are generally confined to the combustion chamber and the intake and exhaust ports. A small portion of the working gasses, however, escapes from the combustion chamber past the piston rings to the crankcase. These gasses are referred to as blow-by and are vented back to the intake system to be recycled through the combustion process." Note, FIG. 1 of the present specification which depicts such an internal combustion engine. Clearly, therefore, as any person having skill in the art knows, internal combustion engines, and, in turn, working machines, of the type depicted in that figure, are vented. See also, the background description in U.S. patent 5,794,602 which discloses a crankcase ventilation system. Moreover, not only does the original specification of this application expressly recognize this in relation to the present invention by referring to "overpressure" as, for example, at page 9, line 15, which term is in allowed claim 64, but also states in <u>haec verba</u> as follows:

> Page 4, lines 16-17: "The [detail] is to be taken in an illustrative and not necessarily limiting sense."
>
> Page 8, line 16: "Internal pressure relief opening and/or valve 60 may be provided."
>
> Page 9, lines 19-22: "Various features, subcombinations and combinations of the invention may be practiced with or without reference to other features, subcombinations or combinations in the practice of the invention, ..."

As for the 20,000-mile and 50,000-mile limitations, these are most clearly present in the description as an implicit, inherent comparison to the art prior to the present invention. Compare, background disclosure of known automobiles in the specification,

page 1, lines 16-19; from page 2, last line, to page 3, line 4. It is well settled that amendments like these do not constitute an addition of new matter. See e.g., Marconi Wireless Telegraph Co. of America v. United States, 57 USPQ 471, 483 (U.S. 1943). What is more, the Examiner has provided absolutely no reasoning in support of his objection and rejection, under which conditions the same cannot be properly maintained.

The rejection of claim 16 under 35 USC 102(b) over Kopel, US 4561393, as set forth in Paper No. 16, is respectfully traversed. Kopel does not describe the claimed invention. Again, Kopel describes a sealed hydraulic lifter system. In contrast, claim 16 requires a vented system, which is not described by Kopel.

The rejection of claims 16, 17, 39 & 50 under 35 USC 103(a) over Elizabeth et al., US 3617580, in view of Fujiyama et al. (Horiba Ltd.), JP 2082304A, as set forth in Paper No. 16, is respectfully traversed. The proposed combination does not teach nor suggest to a person of ordinary skill in the art any of the claimed embodiments under the meaning of Sec. 103(a).

These patents are fundamentally unrelated to each other as well as to the claimed subject matter at issue.

Elizabeth et al. discloses a lubricating oil treatment system. That treatment concerns and involves circulation of crankcase oil through a solid, inorganic substance containing filter element. The substance of the filter element can be an active metal such as zinc, aluminum, magnesium, etc., or can even be an oxidizable material such as red phosphorus. It thus would appear to remove acid functionality from the oil. That treatment may also include use of so-called "inert" filter elements such as diatomaceous earth, kaolin, kieselguhr, activated clay, charcoal, activated carbon and fuller's earth. The Elizabeth et al. patent is directed to correction of sludge formation, caused by nitrogen compounds including oxides of nitrogen in the combustion process.

Horiba discloses use of a floating inner cover which resides on the surface of oil stored in a tank. Above the cover is an inert gas supply.

Nothing in Elizabeth et al. suggests the value of reducing the oxygen content in a gas (e.g., air) above the oil in the crankcase or in any other space above oleaginous liquid in a working machine. As well, any phosphorus compound formed between the red phosphorus and polar or acidic oxidized oil would be soluble enough to pass through the filter into the oil supply. Such phosphorus compounds have sufficient volatility to pass through the crankcase venting system (e.g., Selby/Selby et al., U.S. patent Nos. 5,667,302; 5,692,892; 5,922,973; 6,083,380) and cause premature failure of the catalytic exhaust system. Thus, Elizabeth et al. does not provide the necessary advantage to suggest modification of the same along the lines of the present invention, and moreover, teaches away from the present invention, which are strong indications of nonobviousness. See, e.g., In re

Hedges, 228 USPQ 685, 687 (Fed. Cir. 1986).

Furthermore, nothing in Horiba relates to protection of oil in a working machine, nor does Horiba suggest that an inert gas such as nitrogen should be in contact with the oil. Rather, Horiba teaches that an inner cover should contact the oil. The upshot is clear: Horiba in essence teaches the ordinary artisan that an inert gas blanket alone is insufficient to protect oil from oxidation, thus teaching away from direct inert gas blanketing of oil as claimed.

Thus, Horiba cannot be combined with Elizabeth et al., since neither relates to the art of the present invention which employs an inert gas above and in contact with an oleaginous liquid in a working machine, nor does the art of Horiba (storage) relate to the art of Elizabeth et al. Even if, for the sake of argument, the references could be properly combined, their teachings would not motivate one of ordinary skill to arrive at the claimed invention. Clearly, Horiba does not make up for the deficiencies in Elizabeth et al. Moreover, the references each alone, and together, teach away from the present claimed invention, to nitrogen compound protection by solid filters and to solid covers on top of an oil supply. Moreover, if combinable, the proposed combination would be inoperable as an inner cover, effective for oxidation protection, would prohibit the lubricant from being able to splash, etc., to lubricate the working machine.

The rejection of claims 19, 20, 42, 43 & 51-53 under Sec. 103(a) over Elizabeth et al., in view of Horiba, in view of Gast, Jr., US 5649995, as set forth in Paper No. 16 is respectfully traversed. The proposed combination does not teach nor suggest to a person of ordinary skill in the art any of the claimed embodiments under the meaning of Sec. 103(a).

The Elizabeth et al., and Horiba, references have already been discussed, both in the present paper, and also of record.

Gast, Jr., also has been discussed of record. Recall, the Feb. 9, 2000 interview. See, the Examiner's 2/9/00 Interview Summary; the Applicants' Record of Interview filed with the Amendment FEB 14 2000; the said Amendment, pages 5-6. See also, the AF Amendment filed 9/21/2000, pages 9 et seq. In short, Gast, Jr. discloses nitrogen generation control systems as for tractor trailer storage systems.

These patents are fundamentally unrelated. Since the primary combination of Elizabeth et al. in view of Horiba, as set forth above, is inapplicable and does not suggest the modifications of even the base claim, and Gast, Jr. does not add anything to rectify this deficiency, the combination must fail. Furthermore, the primary combination, as noted above, teaches away from the claimed invention, which is strong evidence of unobviousness and a clue in general that the same are not to be applied under the meaning of Sec. 103(a). Moreover, neither of the secondary nor tertiary references relates to the art of

protecting an oleaginous substance in a working machine, as in base claim 16, nor particularly to engine oil protection in the crankcase of a working internal combustion engine, as in base claim 50, and more, Gast, Jr. does not relate to the arts of the primary and secondary references, nor especially even to the art of the base claims 16 & 50. What is more, again, the present invention concerns a vented system. In other words, the present claims at issue point out a dynamic system, whereas Gast, Jr. represents a static system. Note, claims 19, 20, 42 & 43, and claims 51-53. Only relevant art may be properly applied.

With particular respect to claims 20, 51 & 52, which point out differences in kind, not merely degree, as for driving 20,000 miles or more with petroleum based oil without an oil change without benefit of this invention, this is hardly a reasonable option, which can literally force the breakdown of the engine thereby, and as for driving 50,000 miles or more, even more applies. If the Examiner yet disagrees, he is invited again to make of record facts supporting his speculative, dissenting views by entry of an Examiner's affidavit under 37 CFR 1.104(d)(2).

The rejection of claims 46 & 47 under Sec. 103(a) over Elizabeth in view of Horiba in view of Gast, Jr., in view of Tremain, US 4594080, as set forth in Paper No. 16, is respectfully traversed. The proposed combination does not teach nor suggest to a person of ordinary skill in the art the claimed embodiments under the meaning of Sec. 103(a).

The Elizabeth, Horiba, and Gast, Jr. references have been discussed. Note, the above argument and reference to arguments of previous record.

Tremain discloses molecular sieve type gas separation systems. It teaches separation of air for delivery of oxygen.

Since the primary combination fails to render obvious the intervening or base claims (19, 16; 42, 16) from which claims 46 & 47 depend, and Tremain adds nothing to remedy the deficiencies, by mere virtue of its dependence on these claims, claims 46 & 47 are allowable. Moreover, the intent of Tremain is only to deliver oxygen, not nitrogen, particularly not to a working machine. Thus, since the intents of a reference cannot be destroyed to establish a prima facie case of obviousness, the reference cannot be properly applied under the meaning of Sec. 103(a). Moreover, nothing relates therein to delivery of nitrogen, and so, the reference is not properly applicable. Note that pressure swing adsorption, of which the Tremain disclosure represents a type, is a bulky and complicated system, as opposed to a light weight small unit such as in which the present claimed membrane-containing invention can be embodied: even small units of Tremain-type devices for an individual person in supply of enriched oxygen to people with compromised lung capacity weigh a hundred pounds or more. There is nothing in Tremain or any other prior art that would suggest its employment with a working machine.

Overall, with respect to the rejections under Sec. 103(a), absent the Applicants' invention disclosure, nothing in the art suggests the invention, or links the bits and pieces of prior art that have been applied in Paper No. 16. The missing link is the present invention disclosure, but to use its claims as a roadmap for finding the bits and pieces of unrelated art or to apply it as a piece of prior art is a mere exercise in hindsight, and it remains strictly forbidden. See, Arkie Lures Inc. v. Gene Larew Tackle Inc., 43 USPQ2d 953, 957 (Fed. Cir. 1997). Moreover, motivation is practical, not abstract, and only abstract and strained reasoning is set forth in Paper No. 16 as an attempt at representing motivation. See, In re Stemniski, 170 USPQ 343, 347 (CCPA 1971). None of the claims are rendered obvious.

The reasoning set forth in Paper No. 16 is in serious error. In particular, the cited Oetiker decision does not support the Examiner's position, but that of the Applicants: the problem faced by the inventors was not the broad field of keeping elements from oxidizing, otherwise all kinds of even further unrelated art could be applied such as that of polymeric solids and so on, but rather is the pertinent field of keeping an oleaginous liquid, for example, an engine oil or a transmission fluid, from oxidizing. Note that the Examiner has admitted this tacitly in allowing claims 62-67. None of the references applied is relevant under the meaning of Sec. 103(a). Common sense, not remote abstraction, rules. The McLaughlin decision is inapposite as the Examiner has, by finding bits and pieces of the claims in unrelated art, employed the impermissible hindsight faculty.

Please, therefore, withdraw the objection and rejections.

Clearly, claim 68 is not described by any known art as shown by inspection. In particular, no art, including Kopel, discloses a method for controlling oxidative degradation of an oleaginous liquid substance in a generally enclosed space in a working machine **having moving parts in the generally enclosed space.**

Thus, the application is in condition for allowance. Yet, the Examiner remains invited to call the undersigned to discuss the case or to seek authorization for an Examiner's amendment.

A Notice of Allowance is solicited.

Respectfully,

Dated: February 21, 2001 A.D.

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